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POSTAL RATE COMMISSION
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BEFORE THE
POSTAL RATE COMMISSION
WASHINGTON, DC 20268-0001

POSTAL RATE AND FEE CHANGES, 2000

Docket No. R2000-1

REBUTTAL TESTIMONY OF
WILLIAM J. DOWLING
ON BEHALF OF
UNITED STATES POSTAL SERVICE

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1 I. PURPOSE OF TESTIMONY

2 The purpose of this testimony is to respond to ANM witness Haldi
3 regarding the Postal Service's investment in automation technology (ANM-T-1).
4 Throughout his testimony, witness Haldi asserts that the Postal Service has: (1)
5 chronically under-invested in flats processing capacity; and (2) undertaken
6 inadequate research and development of flats processing technology. In both
7 cases, he is wrong. This is not only incorrect when examining our activities in
8 both of these areas throughout the 1990s, but also when reviewing our current
9 and planned activities for the future.

10

11 II. INTRODUCTION

12 The Postal Service's ultimate objective for flats automation has been to
13 bring it as far along as letter automation. In this regard, we require OCR's,
14 Barcode Readers and sortation equipment that will ultimately allow delivery point
15 sequencing. Contrary to witness Haldi's assertions, the Postal Service's record
16 in pursuing this goal has been one of responsibly seeking out and implementing
17 improvements in flats processing technologies. We have traveled the world
18 looking for solutions, literally to Switzerland, Germany, France, Japan, and Italy.
19 In this search, we have actively engaged cutting edge firms in the mail
20 processing equipment industry, as well as our own customers. We have
21 undertaken extensive developmental efforts internally. Where feasible and
22 appropriate, we have enlisted our suppliers to fund developmental efforts. Our
23 suppliers have also initiated efforts on their own.

24 Witness Haldi's testimony and conclusions portray an overly simplistic
25 picture of the significant obstacles facing us in these efforts. As discussed earlier
26 in this docket in the testimony of Walter O'Tormey (USPS-T-42), variations in
27 physical and readability characteristics of flats are greater than for letters, as are
28 the variations in material handling characteristics. Consequently, the quest for
29 full-blown flats automation has been more challenging. Dealing with these
30 challenges, and pursuing our vision have required balancing the promise of new,
31 emerging technologies against the need to continuously improve our processes

1 and enhance efficiencies, while maintaining acceptable levels of service. I
2 believe we have done that. We have worked at upgrading and expanding the
3 capability of our existing equipment base, while testing and developing new
4 technologically advanced alternatives.

5 In the early and mid 1990's, issues concerning flats automation were also
6 clouded by the uncertainty of projected flats volume growth. The Standard A
7 letter/flats rate differential introduced in 1991 initially reduced non-carrier route
8 flats volume. It was unclear whether that trend would continue. It did not. The
9 introduction of the Enhanced Carrier Route subclass in Standard A and drop ship
10 incentives for Standard A and Periodicals attracted additional flats volume to
11 destination SCF and delivery units, thereby bypassing flats distribution or bundle
12 sorting operations. Because we were currently not delivery point sequencing
13 flats, carrier route presorting and drop shipment combined to reduce the potential
14 return on investment for flats sorting equipment and flats automation. Despite
15 these rate incentives, moreover, non-carrier route flats volumes continued to
16 grow. Rather than serve this growth by adding flats distribution capacity using
17 outmoded technology, we elected to increase capacity using next-generation
18 technology that is more than twice as fast, is more space efficient, and offers the
19 potential to sort mail to even finer levels, including in the order in which it is
20 delivered.

21 Looking back, It is certainly possible to hypothesize that we could have
22 invested more in flats processing equipment during the 1990's. The advantage
23 of hindsight no doubt gives rise to Witness Haldi's simplistic conclusions. During
24 this time, however, we aggressively pursued enhancements designed to increase
25 the capacity of existing machines. I believe the level of investment we made was
26 reasonable and effective.

1
2 III. THE POSTAL SERVICE HAS CONTINUOUSLY INCREASED CAPACITY
3 AND EXPANDED THE CAPABILITIES OF ITS FLATS HANDLING
4 TECHNOLOGIES THROUGHOUT THE 1990s
5

6 A. Witness Haldi's Claim that the Postal Service Has Chronically Failed to
7 Address FSM 881 Flats Sorting Capacity Needs During the 1990s Is
8 Wrong.
9

10 The model 881 flats sorting machine is our present workhorse for sorting
11 individual pieces of flats shaped mail. Today, we have just over 800 of these
12 machines deployed nationwide. Witness Haldi is particularly critical of what he
13 characterizes generally as a failure to invest in procuring more 881s, as well as
14 other equipment. See Tr. 22/9632-34.

15 Witness Haldi appears to believe that the only logical way to increase
16 model 881 processing capacity was to purchase additional machines. He seems
17 to ignore the possibility that processing capacity can also be increased by
18 enhancing the processing speed of an existing machine. This latter method has
19 the advantage of being more cost and space efficient. Since the first purchase of
20 these machines about 20 years ago, we have been continuously implementing
21 improvements to enhance their capacity, performance, and capabilities.

22 These improvements included a significant configuration change in 1990.
23 The original flats sorter model (FSM 775) consisted of four induction stations on
24 one side of the machine. By relocating two of these induction stations to the
25 opposite side of the machine, we effectively "split" the machine into two,
26 improving its operating throughput, and thereby increasing its processing
27 capacity. While the theoretical throughput of the machine increased
28 substantially, our investment in this change was based on an expected increase
29 in operational throughput of 13 percent.

30 In the early 1990s, we initiated automated processing on the FSM 881.
31 We invested substantially in the latest barcode recognition technology to further
32 improve throughput and productivity. Over 1600 barcode readers were installed
33 on these machines (one for each side of the machine). The combination of these

1 barcode readers, along with increased volumes of pre-barcoded flats generated
2 by the incentives offered to flats mailers, enabled us to eliminate manual keying
3 for these mailpieces. Investment in this latest automated technology was based
4 on an expected increase in throughput of over 50 percent.

5 The FSM 881 barcode reading automation effort at first relied on customer
6 barcoding. Early on in this program, it became apparent that the volume of
7 customer-barcoded mail pieces was falling short of expectations. Recognizing
8 the advantages of automating the non-barcoded portion of this mail led to the
9 pursuit of a flats mail optical character reader (OCR). In 1997, the Postal Service
10 invested in OCR retrofits to the FSM 881. This investment was based on an
11 expected increase in machine throughput of 50 percent or more.

12 The above three major improvements to the FSM 881 during the 1990s
13 reflect the Postal Service's ongoing efforts and commitment to increase
14 processing capacity and lower processing costs for flats mail. There were
15 various other enhancements to the machine during the 1990s, including
16 modifications that allowed the machines to handle flimsy pieces and pieces with
17 smaller dimensions, including "digest-sized" pieces. Also, by working with
18 mailers and plastics producers, we developed FSM 881-compatible polywrap
19 specifications, which further expanded the mail that could be handled by the
20 machine.

21
22 B. The Postal Service Has Appropriately Addressed Flats Processing
23 Capacity Needs Via the FSM 1000
24

25 Witness Haldi contends that, in addition to, or instead of acquiring more
26 FSM 881s, the Postal Service should have acquired more FSM 1000s, a model
27 of flats sorter that is capable of handling flats with physical characteristics
28 considered "non-machineable" for FSM 881s. See Tr. 22/9633. Contrary to
29 Witness Haldi's suggestion that we have underutilized this technology, however,
30 we employed it effectively, as it was developed and became available for use. In
31 my opinion, furthermore, the Postal Service acted reasonably and responsibly

1 under the circumstances in maintaining an appropriate balance of FSM 881s and
2 FSM 1000s.

3 One significant limitation of the model 881 is its inability to handle about
4 one-fourth of the flats mail base due to the physical characteristics of flats. In the
5 summer of 1992, the Postal Service began testing the FSM 1000, which was
6 designed to handle these difficult-to-handle, "non-machineable" flats mail pieces.
7 Success of these tests led to the initial purchase of 102 FSM 1000s in 1994.
8 Subsequent analysis supported the need to increase FSM 1000 flats sorting
9 capacity, and, in 1996, 240 additional machines were purchased.

10 Initially the FSM 1000s were operator-paced mechanical sorters. We
11 have subsequently developed, invested in, and deployed barcode reading
12 capability to these machines. Moreover, at this time, we have just developed and
13 tested both automatic feeders and OCR upgrades. We expect to begin
14 deploying these enhancements late next year.

15

16 C. AFSM 100s Will Enhance Current and Future Processing Capacity
17 Needs

18

19 Perhaps the most significant recent development in flats sorting
20 equipment is our recent purchase of new AFSM 100 machines that we will be
21 deploying during the next two years. Witness Haldi suggests that the Postal
22 Service has touted the promise of this equipment in order to mollify criticism or
23 excuse the effects of the alleged failure to invest adequately in flats sorting
24 equipment during the last decade. See Tr. 22/9648. Contrary to this suggestion,
25 however, the AFSM 100 did not recently arrive on the scene to save us from
26 unwanted criticism. Rather, we promoted the development of this technology
27 during a substantial part of the same period time on which Witness Haldi has
28 focused his criticism.

29 Our involvement with this new technology dates back to the mid-1990s.
30 We actually purchased two different European designed machines, and placed
31 them in two of our processing plants to see if they could process our significantly
32 more difficult-to-handle flats mail base. At the same time, we also discovered

1 two other machines that looked to be suitable for our mail processing needs.
2 After extensive testing, we were able to select the best of these machines and
3 incorporate various design changes, making them the most advanced flats
4 sorting machines in the world, and best suited for our mail base. The AFSM 100
5 offers several features not available on the FSM 881, including an automatic
6 feeder, a tray take-away conveyor with adaptability to robotic handling, and on-
7 line video coding for processing non-readable flats mail. Expected operational
8 throughput is more than double that of our existing FSM 881s, which these
9 machines will be replacing.

10

11 D. The Postal Service Has Responsibly Pursued Investment in Other
12 Technologies to Address Flats-Related Processing Costs
13

14 Witness Haldi's criticisms ignore other measures we have pursued and
15 are pursuing to improve the effectiveness and efficiency of flats processing. As
16 noted above, our goal for flats is to build upon our letter automation successes
17 and eventually move to delivery point sequencing. While the AFSM 100
18 represents the first technology deployed with the potential also to sequence flats,
19 we have several other alternatives under development and review. In the coming
20 months, we will begin field-testing three different designs of a flats bundle
21 collator. These machines are designed to merge multiple bundles of walk-
22 sequenced mailings into a single bundle to enhance carrier handling of this mail.
23 There are also efforts underway to develop a new machine that could prove to be
24 a viable candidate for sequencing flats mail.

25 Furthermore, our efforts to develop and invest in flats processing
26 equipment have not been limited to piece distribution machines. During the last
27 10 years, we have purchased 340 small parcel and bundle sorters (SPBSs).
28 Currently bundles of flats mail make up about 60 percent of the mail handled.
29 Flats will therefore benefit from productivity gains generated by these machines.
30 We have also recently upgraded these machines with advanced automatic feed
31 systems, further enhancing their performance. Later this year, we plan to begin
32 testing a new generation of bundle sorters, which will include automatic

1 singulation and feeding, OCR and on-line video encoding, and greater sorting
2 capabilities. Overall expectations are that these machines will provide the kind of
3 performance improvement over our existing SPBSs that we have seen from the
4 AFSM 100 and its FSM 881 baseline machine.

5
6 IV. THE POSTAL SERVICE AND ITS SUPPLIERS HAVE CONTINUOUSLY
7 UNDERTAKEN RESEARCH AND DEVELOPMENT OF ADVANCED FLATS-
8 BASED PROCESSING TECHNOLOGIES
9

10 Witness Haldi claims throughout his testimony that the Postal Service's
11 research and development efforts have been deficient. See Tr. 22/9637-38. He
12 suggests that this deficiency has been particularly acute for flats-related
13 processing technologies. His criticisms, however, substantially distort the Postal
14 Service's accomplishments and efforts in research and development.

15 While I would agree that technological advancements in processing flats
16 have lagged behind letter automation, it is not been due to a lack of commitment.
17 Throughout the 1990s and today, both the Postal Service and its suppliers have
18 been, and are continuing to aggressively develop new flats processing
19 technologies. Indeed, the flats-related technological improvements that we have
20 been implementing during the last decade (discussed above) are the outcomes
21 of significant research and development efforts.

22 I believe it is commonly understood that, in general, technology
23 development has risks, and that not all research activities lead to viable
24 alternatives. This is also true of postal technologies. While we seek to avoid
25 failures in this area, we, along with our suppliers, have continuously invested in
26 various flats processing developmental efforts.

27 There have been various developmental efforts during the 1990s
28 specifically addressing the limitations of the FSM 881. In the early 1990s, an
29 advanced flats sorting machine that included multiple automatic feeders along
30 with automatic tray removal and replenishment was prototyped and field-tested.
31 Unfortunately, the size, performance, and costs of this new machine failed to
32 justify further developmental efforts. Automatic feeders for the FSM 881 were

1 also developed and tested in the 1990s. While they were somewhat successful,
2 analysis showed that the expected benefits were insufficient to justify the
3 investment required, particularly given the prospects of newer advanced
4 technologies under development. In spite of these shortfalls, both of these
5 developmental efforts contained design features that were being incorporated
6 into newer advanced flats sorting equipment under development around the
7 world.

9 IV. SUMMARY

11 In summary, witness Haldi's claims that the Postal Service has chronically
12 constrained its investment in flats sorting technology, ignored and failed to
13 address capacity needs, and limited its research efforts in flats processing
14 technologies are without merit. To the contrary, we have continuously sponsored
15 and sought out the best flats sorting technology available in the world. We have
16 done this responsibly, however, by only investing when the economics of such
17 decisions made sense, given all available information. In fact, I would argue that
18 the biggest constraint in our capital investments in flats handling technologies
19 has been the shortage of available viable technological opportunities.

20 During the last 10 years, the Board of Governors, along with senior postal
21 management, have strongly supported virtually all technological improvements
22 available for our flats mailers. Since my appointment as head of Engineering in
23 1991, I have presented more than a dozen flats-related capital projects to senior
24 management for funding approval. Every one of them has been approved.
25 During the 1990s, we have taken the necessary steps to more fully automate and
26 increase capacity of our FSM 881s by adding both barcode reading and optical
27 character reading capabilities. We have added new FSM 1000s and enhanced
28 them with barcode reading capabilities; and we have invested substantially in
29 flats bundle handling technologies. In my view, we have responsibly pursued
30 flats processing technologies in the past, and are even more committed to that
31 goal in the future.